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Klaus J. Bach
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EXAMINER

MOORE, KARLA A

ART UNIT PAPER NUMBER

1763

DATE MAILED: 12/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/902,882

Applicant(s)

SACHER, JOACHIM

Examiner

Karla Moore

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 14-16 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,037,006 to Chakrabarti et al. in view of U.S. Patent No. 5,221,636 to Landreau et al. in view of Japanese Patent No. 61204373 A to Kwarada et al.
3. Chakrabarti et al. disclose an apparatus for coating at least one of the front and rear facets of semiconductor laser diodes (lasers) with an anti-reflection later, substantially as claimed. The apparatus comprises: a receiver (Figure 10, 160) for containing lasers; a coating source (170) disposed in said receiver; and a support structure (164) for supporting said lasers to be coated such that said lasers are supported with their facets all at essentially the same distance from said coating source.
4. Further, in the apparatus of Chakrabarti et al. said lasers are supported on a support structure forming a magazine (150) by which they can be moved into and out of said receiver (column 5, rows 59-62 and column 6, rows 60-63). Additionally, said lasers are arranged in a circle around said coating source in Figure 8, although the source is not at the center of the circle.
5. However, Chakrabarti et al. fail to teach in-situ monitoring of at least one of the laser parameters including the laser light emitted, electric voltage, quantum efficiency or threshold current. Nor, does Chakrabarti teach for each laser a shutter supported in said receiver so as to be movable selectively in from to lasers to protect them from further coating or a control unit including at least one of a laser control, shutter control, a layer thickness control and a vacuum control arrangement and said control unit

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communicating with said coating source, said laser support and said shutter support structure by at least one of electrical and optical conduits.

6. Landreau et al. teach the use of a voltmeter (column 3, rows 34-37) for in-situ monitoring of the electrical voltage of the laser for the purpose of detecting a maximum voltage, which indicates an overall reflectivity minimum of a coating applied and thus provided a stopping point for the coating process (column 2, rows 14-27).

7. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided in-situ monitoring of at least one of the laser parameters, such as electric voltage in Chakrabarti et al. in order to determine an overall reflectivity minimum of a coating applied and thus a stopping point for the coating process as taught by Landreau et al.

8. Additionally, Landreau et al. teach the use of a retractable shutter (23) for the protection of a laser while a laser support is pivoted (column 3, rows 60-62).

9. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided a shutter in Chakrabarti et al. in order to protect a laser from coating when needed as taught by Landreau et al.

10. Landreau et al. also teach the use of a control unit (32) which monitors a laser parameter (i.e. electric voltage) of at least one of the lasers in said receiver for coating their facets while at least one laser is electrically operated. Said control unit includes a shutter control and a thickness control (column 3, rows 46-62). Said control unit is in communication with the coating source (S1), said laser support (S3) and a shutter support structure (S4) (Figure 1; column 3, rows 28-31). The control unit is provided for the purpose of detecting the instant where said voltage passes through a maximum and controlling the stooping of coating means (column 3, rows 43-45).

11. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided a control unit in Chakrabarti et al. in order to detect the instant where said

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voltage passes through a maximum and to control the stopping of the coating means as taught by Landreau et al.

12. Chakrabarti et al. and Landreau et al. disclose the invention substantially as claimed and as described above.

13. However, while Landreau et al. do disclose the use of as shield, a plurality of shutters (one for each of the substrates being processed) is not taught.

14. Kawarada et al. teach the use of a plurality of shutters for the purpose of simultaneously forming plural substrates with different film thicknesses in one film-forming stage and also to enable independent masking control of each of the plural substrates (abstract).

15. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided individual shutters for plural substrates in the prior art in order to simultaneously form plural substrates with different film thicknesses in one film forming stage and also to enable independent masking control of each of the plural substrates as taught by Kawarada et al.

16. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chakrabarti et al., Landreau et al. and Kawarada et al. as applied to claims 14-16 and 18-20 above, and further in view of U.S. Patent No. 5,980,975 to Nomura et al.

17. Chakrabarti et al. and Landreau et al. disclose the apparatus substantially as claimed and as described above.

18. However, the prior art fails to teach arrangement of said lasers along lines disposed at opposite sides equidistantly from a coating source.

19. Nomura et al. teach placement of substrates (Figure 8, 10) disposed on opposite sides equidistantly from a coating source (9, column 11, rows 39-40) for the purpose of exposing them simultaneously to film formation (column 12, rows 35-45).

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20. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided the substrates on opposite sides and equidistant from a coating source in the prior art in order to simultaneously form a film on the substrates as taught by Nomura et al.

Response to Arguments

21. Applicant's arguments filed 10/01/03 have been fully considered but they are not persuasive.

22. With respect to Applicant's argument based on the combination of Chakrabarti et al. and Landreau et al. and the capability of monitoring each of the individual lasers, Examiner suggests that as disclosed in Landreau et al. a voltmeter could be connected to each of the individual lasers present in Chakrabarti et al. With respect to the practicality of the method disclosed by Landreau et al., Examiner notes that the method and the structures needed to carry out the intended method of the present application are disclosed in Landreau to the extent that they are recited in the present apparatus claims. Whether the specific preferred method of the cited prior art is the same as the one in the presently claimed invention is not of primary issue in the pending apparatus claims.

23. With respect to Applicant's arguments drawn to the combination of Landreau et al. and Kwarada et al., Examiner recognizes that Kwarada fails to teach the kind of coating used or how the coating thickness is measured or whether it is measured at all. However, Examiner points out these are not the features for which the reference is relied upon, and further, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

24. Additionally, with respect to Kwarada et al. and its teachings of using shutters to provide coatings of different thickness vs. "an optimum coating" as recited in the present claims, Examiner submits that these are two different ways of referring to control of the same parameter. Certainly, one of ordinary skill in the art would recognize that an apparatus capable of controlling the thickness of a coating would also be capable of providing an "optimum coating" or a coating of optimum thickness, as claimed.

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Conclusion

25. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karla Moore whose telephone number is 703.305.3142. The examiner can normally be reached on Monday-Friday, 8:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Mills can be reached on 703.308.1633. The fax phone numbers for the organization where this application or proceeding is assigned are 703.872.9310 for regular communications and 703.872.9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.308.0661.

km
December 9, 2003

*Primary Examiner
AV 1763
P. HailanZadeh*